Determining TCO for Physical Computer Labs

The role of IT is a complex one and often involves overseeing many different parts of an institution's operations, including a campus computing strategy. While determining which technology solution is a good fit seems like a relatively easy task, the complexity soon reveals itself once the sheer number of approaches and solutions available are apparent. In this white paper, we'll examine one such solution: deploying physical computer labs.

Introduction

Evaluating technology solutions often requires a multi-faceted approach where institutions weigh a variety of factors in a quest to choose the best solution for their campus. A common factor of comparison often ends up being TCO or Total Cost of Ownership. Throughout this white paper, we'll examine the costs of computer lab ownership and demonstrate how to accurately calculate the TCO of physical computer labs.

Initial Investment

Most campus computing solutions start with an up-front investment. For some solutions this is hardware, for others, it's software or licensing, and sometimes it's all three.

For campus labs, there is the physical hardware purchase of computers, monitors, keyboards, and mice (we'll assume furniture and networking equipment is already in place). Depending on the intended use of the machines, there may be a range of costs based on the individual specifications required. Talking with schools across the country, we've determined the average package per computer will cost $1,500.00.

On the surface, one could assume the investment figure would then come down to a simple formula of cost multiplied by the number of machines needed. However, there's a lot more to consider.

The first being, the cost and timing of a hardware refresh cycle. When it comes to computers, there's no such thing as a one-and-done purchase. New technologies roll out at a rapid rate, making the shelf life of a computer extremely short. There needs to be a decision made about how often and at what percentage will your institution replace (refresh) the computers found across campus. The majority of schools typically aim for 20%-25% of their fleet every year. This can represent a sizable line item in IT's budget.

Next, consider how these computers will be managed. Are you using a tool from Microsoft, such as Intune, where your existing campus agreement already entitles you to licenses? Or are you investing in an alternative product such as KACE, where an additional investment of about $2.50 per device will be needed?

Finally, does your IT department have the headcount required to take on the management tasks associated with offering physical computer labs across campus?

Ongoing Costs

After the initial investment has been made, IT leaders need to weigh the ongoing costs of updating and maintaining the lab spaces, and as noted before, refreshing the associated hardware on a regular basis. What licensing costs need to be renewed each year? Are there any certification courses and exams your IT staff will need to complete annually? What about the average break/fix budget for the physical hardware assets?

The cost of offering and maintaining physical computer labs goes far beyond just the initial purchase of the computers, as is becoming clear.

Soft Costs

One of the most frequent mistakes leaders make when considering a new solution is the cost of human capital to manage and maintain the new solution. However, this is easy to incorporate and should be part of any TCO calculation.

For the solution of physical computer labs, there are three primary areas of human cost to review and estimate. First, is the time it takes to create the gold image that will be used to clone the rest of the computers across campus. Second, is the time and effort required to swap hardware components during the annual refresh cycle. And third, is the time needed to diagnose and effect repairs of failed equipment. Each of these activities will require one or more staff members to complete, and each staff member has an associated cost in salary plus benefits.

Hidden Costs

Thankfully, there aren't a lot of hidden costs associated with computer lab implementations, but there is one that should be weighed: student dissatisfaction affecting retention.

Picture this: two high school friends graduate and head off to different schools to complete their undergraduate degrees. When back at home for a holiday they share experiences and compare notes about the respective schools they're attending. The first

notes how they spend a lot of time walking around campus going from building to building in search of the correct computer lab to do homework and course assignments. The second freshman is having a vastly different experience, because their campus offers virtual labs in the cloud, and in some cases, direct access from BYOD laptops. They can work from the dorm, student lounge, and even the local coffee shop.

It's possible that after hearing how easy his friend's school makes learning on the go, the first student may feel dissatisfied with his circumstances and might even consider transferring. Granted it's a hard metric to quantify, but it could happen and could negatively impact the success of your campus.

Example TCO

We invite all readers to use this example and formulas to create their own calculations around the operation (or installation) of a computer lab solution on your campus. For our example, we're assuming 500 computers across campus are already in place, and our school will do an annual refresh of 25%.

VARIABLE	EXAMPLE COST
Cost per computer/computer package	$1500.00
Number of computers (refresh)	125
Break/fix budget	$30,000.00
Staff salary	$45,000
Staff benefits cost	25% of Salary
Number of FTE	2
Time spent on gold images	4 weeks each
Time spent on deployment	1 week each
Time spend on break/fix (annual average)	1 week each
Lab management software licensing	$0 (included with Microsoft agreement)

Hardware Calculation:
Computer cost x count of computers + break/fit budget
$1500.00 x 125 = $187,000.00 + $30,000.00 = $217,000.00

Staff Cost Calculation:
Salary + Benefits / 2000 for hourly rate
$45,000.00 + $11,250.00 / 2000 = $28.00/hour

Hourly rate x number of staff x total time
$28.00 x 2 x 222 hours = $12,432.00

Annual Total = $229,432.00

Based on the above example, the cost of maintaining physical computer labs across campus will have a TCO of well over $200,000.00 annually. This does not factor in the

potential loss of students due to their dissatisfaction with being restricted to certain lab spaces to use specific academic software.

Why Consider Apporto

Purpose-built for higher ed, Apporto's virtual computer labs are different. We offer colleges and universities a variety of purpose-built features, anywhere anytime access, and true digital equity, using our clientless connection via popular web browsers.

Our affordable and low-cost pricing model makes determining TCO a breeze. Our calculation couldn't be simpler: Number of concurrent users x size (performance profile.) For example, 100 user seats would cost $80,000.00 on average.

In addition, Apporto offers a fully managed service that takes care of all the infrastructure, backup and recovery, monitoring, and maintenance so that your IT staff can concentrate on the strategic tasks and projects that can continue to elevate the rankings of your campus.

	HARDWARE	BREAK/FIX	MANAGEMENT	SOFT COSTS	HIDDEN COSTS
CAMPUS LABS	Yes	Yes	Yes	Yes	Yes
APPORTO	No	No	No	Minimal	No

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